SAMPLING AND ANALYSIS PLAN
FOR THE
ILLINOIS TERMINAL RAILROAD SITE
NATIONAL CITY, ST. CLAIR COUNTY, ILLINOIS

Prepared for
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V

Prepared by
WESTON SOLUTIONS, INC.
Region V Superfund Technical Assessment and Response Team

Approved by: _____ Date: _____
U.S. EPA Region V
On-Scene Coordinator

Project Dates of Sampling:	May 29, 2008 through June 30, 2008
CERCLA Site/Spill Identifier No.:	ILN000510156
Contract Name:	START III
Contract No.:	EP-S5-06-04
Technical Direction Document No.:	S05-0001-0712-010
Document Control No.:	359-2A-ACDF

ACRONYM LIST

COC	Chain-of-Custody
ITR	Illinois Terminal Railroad
MS/MSD	Matrix Spike/ Matrix Spike Duplicate
OSC	On-Scene Coordinator
PCB	Polychlorinated Biphenyl
PPE	Personal Protective Equipment
PRP	Potentially Responsible Party
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
SAP	Sampling and Analysis Plan
SLAS	St. Louis Auto Shredding
SOP	Standard Operating Procedure
START	Superfund Technical Assessment and Response Team
U.S. EPA	United States Environmental Protection Agency
WESTON	Weston Solutions, Inc.
XRF	X-Ray Fluorescence Analyzer

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1.0 Introduction

This Sampling and Analysis Plan (SAP) identifies the data collection activities and associated quality assurance/quality control (QA/QC) measures specific to the Illinois Terminal Railroad Site (ITR Site) located in National City, St. Clair County, Illinois. All data will be generated in accordance with the quality requirements described in the Weston Solutions, Inc. (WESTON) *Superfund Technical Assessment and Response Team (START) III Generic QAPP*, dated June 2006. The purpose of this SAP is to describe site-specific tasks that will be performed in support of the stated objectives. The SAP will reference back to the QAPP for generic tasks common to all data collection activities including routine procedures for sampling and analysis, sample documentation, equipment decontamination, sample handling, data management, data assessment and data review. Additional site-specific procedures and/or modifications to procedures described in the *START III Generic QAPP* are described in the following SAP elements.

This SAP is prepared, reviewed, and approved in accordance with the procedures detailed in the *START III Generic QAPP*. Any deviations or modifications to the approved SAP will be documented using **Table 1: SAP Revision Form.**

2.0 Project Management and SAP Distribution and Project Team Member List

Management of the Site will be as documented in the *START III Generic QAPP*. Refer to the *START III Generic QAPP* for an organizational chart, communication pathways, personnel responsibilities and qualifications, and special personnel training requirements.

The following personnel will be involved in planning and/or technical activities performed for this data collection activity. Each will receive a copy of the approved SAP. A copy of the SAP will also be retained in the site file.

Personnel	Title	Organization	Phone Number	Email
Jaime Brown	OSC	U.S. EPA	312-886-2256	Brown.Jaime@epamail.epa.gov
Lisa Graczyk	Project Manager	START	312-424-3339	lgraczyk@dynamac.com
Bill Pietroburgo	Site Leader	START	314-486-3772	bpietroburgo@pe-engrs.com
Tom Binz	Technical Assistant	START	314-581-0975	tbinz@pe-engrs.com
Tonya Balla	Health and Safety	START	847-918-4094	t.balla@westonsolutions.com
Pamela Bayles	QA Reviewer	START	847-918-4030	pamela.bayles@westonsolutions.com

NOTES:
OSC – On-Scene Coordinator
QA – Quality Assurance
START – Superfund Technical Assessment and Response Team
U.S. EPA – United States Environmental Protection Agency

3.0 Planning and Problem Definition

3.1 Problem Definition

The ITR Site is a 90 foot former railroad easement running approximately north - south just east of the former Saint Louis Auto Shredding (SLAS) Site. SLAS was a polychlorinated biphenyl (PCB)/heavy metal, and paint waste contaminated site in which impacted soil removal was conducted from May to September, 2004. The potentially responsible party (PRP), St. Louis National Stockyards Company, will be performing a removal action on the ITR property adjacent to SLAS. The concern is contaminant migration from SLAS. WESTON START will provide PRP oversight of removal activities on behalf of the U.S. Environmental Protection Agency (U.S.EPA). As part of the PRP oversight activities, WESTON START will collect split samples of approximately 10 percent of the PRP's confirmation samples.

3.2 Site History and Background

The ITR Site is located on a tract of approximately 0.15 acres north of the Cahokia Canal and west of Illinois Route 203 in National City, St. Clair County, Illinois (Figure 1). The ITR site is an abandoned railroad easement situated along a north – south corridor. The ITR Site is bordered to the west by the former SLAS Site, to the east by Gateway National Golf Course, to the north by additional railroad easements and to the south by the Cahokia Canal and Gateway National Racetrack

A summary of events of the ITR Site leading up to the removal action and site sampling activities are as follows:.

- Abandoned drums of unknown materials were discovered by hunters and the Illinois EPA in 1993. SLAS site formerly had an estimated 40+ drums of solvents, PCB and heavy metals.

- SLAS completed removal of twenty-seven (27) drums of waste in 1996. This process did not include the removal of any contaminated soil associated with the drums or any additional investigation of horizontal or vertical evaluation of the extent of soil contamination. The drums contained paint sludge's, pigments and epoxy waste materials.

- The Illinois EPA performed field investigation activities in 2000. Elevated levels of metals and PCBs were found on the SLAS Site. The Illinois EPA referred the SLAS to the U.S. EPA.

- The US EPA conducted a removal evaluation of the SLAS Site in 2001 indicating elevated concentration of both PCBs and metals. A removal action was conducted in 2004 on the SLAS Site and documented in the Final Removal Actions Report in November 2006. During the removal action, stained soils were noted on the adjacent property, the ITR Site.

- A U.S. EPA investigation was conducted of the ITR Site in January 2007 evaluating the "stained soils" as identified during the 2004 removal action. This investigation indicated

elevated concentrations of PCBs. lead, arsenic and antimony.

- In December 2007, RAPPS Engineering and Applied Science conducted a site sampling event at the ITR Site to further define the parameters of the contamination as well as perform waste disposal characterization of the contaminated soils.

3.3 Contaminants of Concern/Target Analytes

The contaminants of concern at the ITR Site are PCBs and metals. All soil samples are to be analyzed for these constituents.

4.0 Project Description and Schedule

The site sampling activities are in conjunction with the removal actions to be conducted by RAPPS Engineering and Applied Science located at 821 South Durkin Drive, Springfield, IL 62074. The sampling activities shall consist of collecting split confirmation soil samples of approximately ten percent of the soil samples to verify the effectiveness of the soil removal perform by RAPPS.

A commercial laboratory will be utilized for analytical services. The START member on site will provide sample coordination including laboratory coordination and sample shipment. Sample labels and chain-of-custody (COC) paperwork will be generated by START. Samples will be packaged properly by START and transported to the commercial laboratory. The turn-around time for the sample data will be five days. The samples will be reviewed and validated by a START chemist within two weeks of data receipt from the laboratory.

5.0 Project Quality Objectives

5.1 Project Objectives

The objective of sampling activities will be to perform confirmatory sampling and analyses of the effectiveness of the removal action performed by RAPPS Engineering and Applied Science. More information about the sampling procedures to support this is provided in Section 6.

5.2 Measurement and Performance Criteria

Generic measurement and performance criteria described in the *START III Generic QAPP* will be used. These criteria will ensure that data are sufficiently sensitive, precise, accurate, and representative to support site decisions.

5.3 Data Quality Objectives

Data quality objectives address requirements that include when, where, and how to collect samples; the number of samples; and the limits on tolerable error rates. Soil sampling locations shall be

random selections of ten percent of the PRP contractor's confirmation soil samples. The soil samples results for PCBs and RCRA metals will be compared to clean-up levels utilized during the PRP's removal assessment at the ITR Site.

6.0 Sampling Design

The site assessment will consist of the collection of soil samples. A description of each type of sampling is described below.

6.1 Soil Sampling

Approximately ten soil samples will be collected during the site sampling activities. At the discretion of the U.S. EPA On-Scene Coordinator, additional soil samples may be collected depending on the extent of soil removal and parameters of the ITR Site. Sampling will generally be collected from 0 to 6" utilizing a plastic scoop or stainless steel trowel and then placed into appropriate sample jars with proper preservatives and storage prior to transport to the commercial laboratory.

All soil samples will be analyzed for PCBs and total Resource Conservation and Recovery Act (RCRA) metals. Requirements for the sample container, volume, preservation, and QC samples are presented in Table 2: Sampling and Analysis Summary.

6.2 Sample Numbering System

All samples for analysis, including QC samples, will be given a unique sample number. The sample numbers will be recorded in the logbook, the COC paperwork, and the shipment documents.

START will assign each sample its unique number. The sample number highlights the suspected contaminated area and location, and will be used for documentation purposes in field logbooks, as well as for presentation of the analytical data in memoranda and reports.

The project samples will be identified using the following format:

ITR-MATRIX-XX-mmddyy

ITR	indicates that the sample is from the ITR Site
MATRIX	indicates which matrix is being sampled. An "S" will be used for soil samples.
XX	indicates the sequential order of the sample location
mmddyy	indicates the sampling date

A field duplicate sample will be identified by adding a "D" to the end of the sample identifier.

Examples of the soil sample identifications for the Site are as follows:

- ITR-S01-060308: Illinois Terminal Railroad Site, first soil sample collected, sample collected on June 3, 2008
- ITR-S01-060308D: Field Duplicate of the sample listed above.

7.0 Sampling Procedures

7.1 Sampling Standard Operating Procedures

The sampling procedures to be used for this site investigation are detailed in Section 6.0 and in WESTON standard operating procedure (SOP) 304, Soil Sampling.

7.2 Decontamination Procedures

General decontamination procedures are described in Section B.2 of the *START III Generic QAPP*. All disposable sampling supplies and PPE will be bagged and disposed of as general refuse with U.S. EPA approval.

8.0 Sample Handling, Tracking, and Custody Procedures

All samples will be identified, handled, shipped, tracked, and maintained under COC, in accordance with the *U.S. EPA Contract Laboratory Program Guidance for Field Samples* dated August 2004.

9.0 Field Analytical Methods and Procedures

9.1 Field Analytical Methods and Standard Operating Procedures

Field analytical methods will not be used during this investigation.

9.2 Field Testing Laboratory

A field testing laboratory will not be used during the site assessment.

9.3 Screening/Confirmatory Analyses

A Niton 700 Series x-ray fluorescence (XRF) analyzer shall be utilized during the soil removal to screen metal concentrations during the soil removal. The XRF will not be used for confirmatory analyses.

10.0 Fixed Laboratory Analytical Methods and Procedures

A commercial laboratory will be utilized for soil analyses. The laboratory selected for this project is:

Teklab, Inc.
5445 Horseshoe Lake Rd
Collinsville, IL 62234
Phone: 618-344-1004 ext.36
Contact: Shelly Hennessy, Project Manager

11.0 Quality Control Activities

11.1 Field Quality Control

The number of QC samples collected for each analytical parameter and concentration level are listed in **Table 2: Sampling and Analysis Summary.** The QC sample determination and frequency is in accordance with the *START III Generic QAPP,* Table 4.

11.2 Analytical Quality Control

QC for analytical procedures will be performed at the frequency described in the *START III Generic QAPP,* Tables 5 and 6. In addition, method-specific QC requirements will be used to ensure data quality.

11.3 Performance Evaluation Samples

Performance evaluation samples will not be collected during this sampling event.

12.0 Documentation, Records, and Data Management

Documentation, record keeping, and data management activities will be conducted in accordance with the *START III Generic QAPP,* Section B.10.

13.0 Quality Assurance Assessment and Corrective Actions

No field audits will be conducted due to the short-term duration of the remediation and sampling event.

14.0 Reports to Management

Reports to management will be written and distributed in accordance with the *START III Generic QAPP,* Section C.

15.0 Steps 1, 2 and 3: Data Review Requirements and Procedures

Step 1: Data collection activities, including sample collection and data generation, will be verified in accordance with the *START III Generic QAPP,* Section D.

Step 2: Data will be validated by WESTON START.

Step 3: Data will be reviewed for usability in accordance with the *START III Generic QAPP*, Section D.

Table 1
SAP Revision Form

Site: ITR Site, National City, St. Clair County, Illinois
OSC: Jaime Brown

Date	Revision Number	Proposed Change to SAP/QAPP	Reason for Change of Scope/Procedures	SAP Section Superseded	Requested By	Approved By

OSC – On-Scene Coordinator
QAPP – Quality Assurance Project Plan
SAP – Sampling and Analysis Plan
TDD – Technical Direction Document

Table 2
Sampling and Analysis Summary

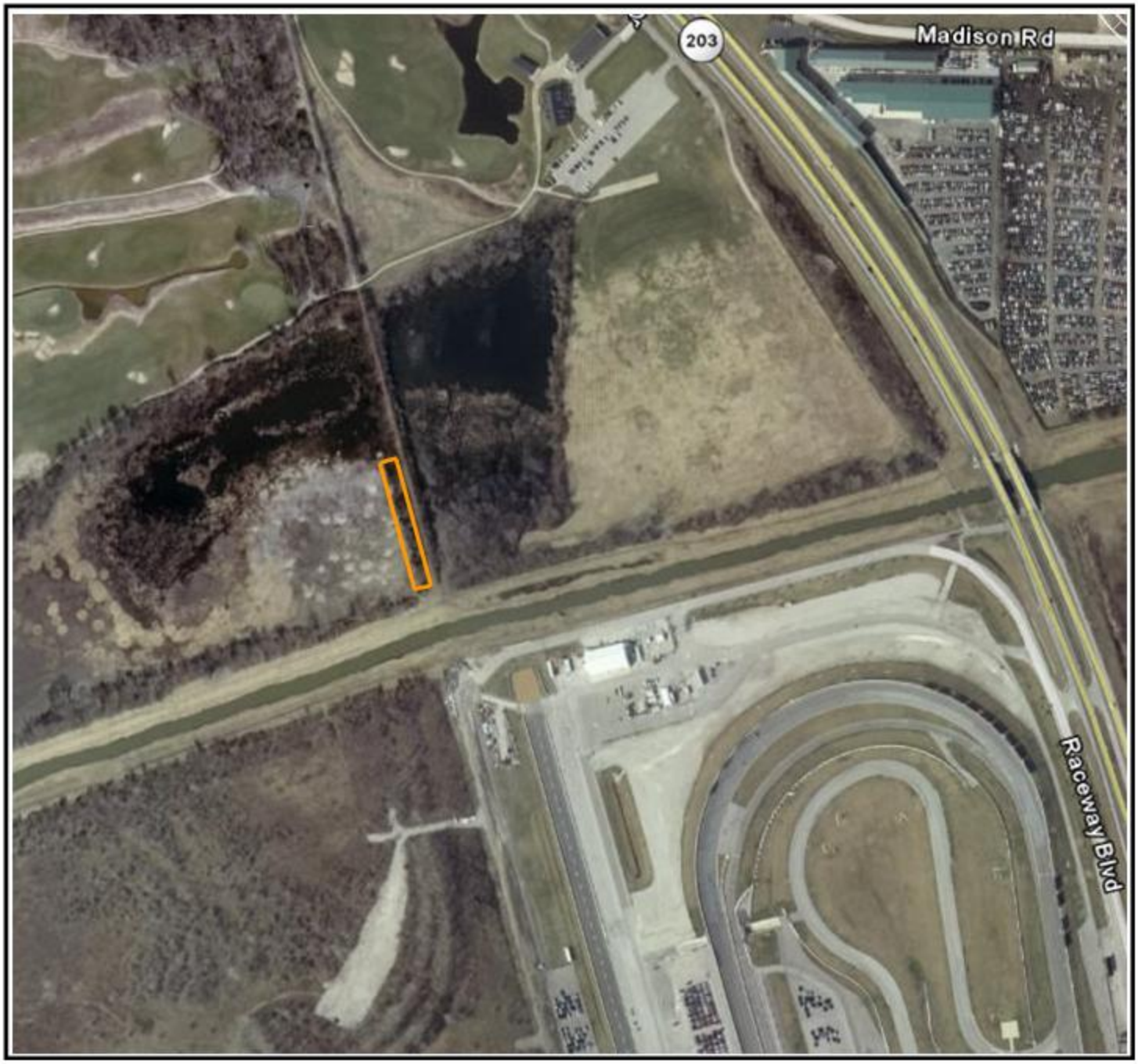
Site: ITR Site, National City, St. Clair County, Illinois
OSC: Jaime Brown

Matrix	Analytical Parameter	Analytical Method (U.S. EPA)	Containers (Numbers, Size, and Type)	Preservation Requirements	Number of Sampling Locations	Number of Field Duplicates	Number of MS/ MSDs	Number of VOC Trip Blanks[1]	Number of Rinsate Blanks	Total Number of Samples to Lab[2]
Soil	RCRA Metals	6010B, and 7471A	1 4-ounce glass jar	Cool to 4°C	10	1	1	0	1	11
Soil	PCBs	8082	1 4-ounce glass jar	Cool to 4°C	10	1	1	0	1	11

Notes:
[1] Trip blanks are only required for VOCs in water samples.
[2] Total numbers of samples to the laboratory does not include MS/MSD samples or rinsate blank samples.

°C – Degrees Celsius
Equip. – Equipment
HNO_3 – Nitric Acid
MS/MSD – Matrix Spike/Matrix Spike Duplicate
TCLP – Toxicity Characteristic Leaching Procedure
U.S. EPA – United States Environmental Protection Agency

FIGURE



Approximate site location boundary

N
W
E
S

Figure 1

Prepared for: **U.S. EPA. REGION 5** Contract No: EP-S5-06-04 TDD No.: S05-0001-0712-010 DCN: 359-2A-ACDF	Prepared by: **WESTON SOLUTIONS, INC.** 750 East Bunker Court Vernon Hills, IL	Site Location Map Illinois Terminal Railroad National City, St. Clair County, Illinois

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